

Claims

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1. A wellbore fluid comprising a water-non soluble particulate material composed of the reaction product of A) one or more water soluble organic compound having possessing a molecular weight of less than 30,000 and possessing at least two hydroxyl groups and B) any other organic compound(s) capable of forming acetal or hemiacetal cross-links with the hydroxyl groups of compound A.
2. The wellbore fluid of claim 1 wherein hydroxyl compound (A) is selected from the class including monosaccharides, oligosaccharides, polysaccharides of molecular weight less than 30,000, glycerol, polyglycerols, erythritol, pentaerythritol, mannitol, sorbitol, glycols, polyalkylene glycols, and low molecular weight water soluble vinyl polymers possessing hydroxyl groups.
3. The wellbore fluid according to claim 1 or 2, wherein compound (B) is selected from the class including aliphatic aldehydes and dialdehydes having from 2 to 10 carbon atoms, and esters of propionic acid wherein the alcohol forming the ester has from 1 to 8 carbon atoms.
4. The wellbore fluid according to any of the preceding claim, wherein 0.5-15%, dry weight of compound (A) and 95.5-85% of said compound (B) is reacted.
5. The wellbore fluid according to any of the preceding claim wherein the particulate material is the reaction product of dextrin and pentanediol.
6. Application of the wellbore fluid according to any of the preceding claim as any of the following well processes : drilling, under-reaming, completing, working over, sealing loss zones, sealing fractures, sealing cavities or other very high permeability conduits in a rock formation, or hydraulic fracturing to stimulate a hydrocarbon-producing zone
7. A process wherein after any of the well processes of claim 6, a low pH fluid containing any acid or buffered solution of less than pH 6.0 is pumped into the producing zone segment of the wellbore to catalyse the decomposition of the particulate material of this invention.
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8. A process wherein, after any of the well processes in Claims 6 or 7, the well is allowed to flow causing a drop in pH which catalyses the decomposition of the particulate solids of this invention permitting yet increased flow of produced fluids.

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